

**Mixtures of alpha-hydroxy-omega-alkoxy- and alpha-omega-dialkoxy-polyoxyalkylene containing little or no dihydroxy-polyoxyalkylene, used for coupling and modification of proteins and other bioactive molecules**

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**Inventor(s):**  
**Applicant(s):** NOVIRA CHEM GMBH [DE]  
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**Abstract of DE 10126158 (A1)**

Mixtures of at least 70 (preferably at least 90) wt% alpha-hydroxy-omega-alkoxy-polyoxyalkylenes (I) and 0.5-30 (preferably 0.5-10) wt% alpha-omega-dialkoxy-polyoxyalkylenes (II) in which the content of dihydroxy-polyoxyalkylenes (III) as impurity is less than 1 (preferably less than 0.2) wt%. Independent claims are also included for (1) mixtures of at least 70 (preferably at least 90) wt% alpha-activated-omega-alkoxy-polyoxyalkylenes and 0.5-30 (preferably 0.5-10) wt% (II) in which the content of di-activated polyoxyalkylenes (IV) is less than 1 (preferably less than 0.2) wt%; (2) mixtures of at least 70 (preferably at least 90) wt% alpha-activated-omega-hydroxy-polyoxyalkylenes and 0.5-30 (preferably 0.5-10) wt% (III) in which the content of (IV) is less than 1 (preferably less than 0.2) wt%; ; (3) a method for the production of the above mixtures by (a) converting an initiator of formula  $R\text{-}(A)\text{-}(R\text{-}10\text{-}j)(XH)e$  into the corresponding anion, (b) anionic polymerisation of alkylene oxide(s) with the initiator anion as starter molecule to give an alpha-protected omega-(poly)hydroxy-polyoxyalkylene, (c) etheration of the omega-hydroxy groups with an alkylating agent of formula  $R\text{-}5\text{-}Y$  and (d) cleavage of the protecting group ( $R\text{-}4\text{-}$ ) to liberate the activated or activatable groups (A); (4) mixtures of mono-activated or -activatable polyoxyalkylenes with unactivated or unactivatable polyoxyalkylenes obtained by this method.;  $R\text{-}4\text{-}$  = an alkali-stable protecting group; A = an activated or activatable group; X = O or  $NR\text{-}3\text{-}$ ;  $R\text{-}3\text{-}$  = H, aryl or 1-12C alkyl; e = 1-12;  $R\text{-}10\text{-}$  = 1-12C hydrocarbyl with attached XH residues; H = acidic hydrogen; j = 0 or 1;  $R\text{-}5\text{-}$  = 1-12C alkyl; and Y = halogen or  $SO_4R\text{-}5\text{-}$ .

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